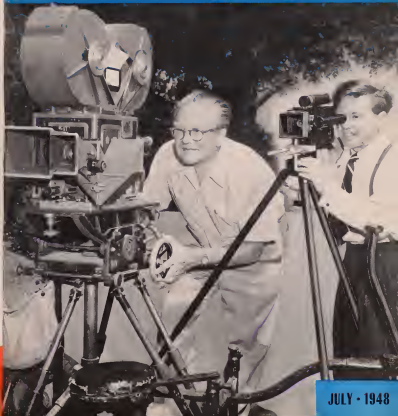


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THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY



JULY - 1948



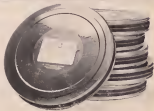
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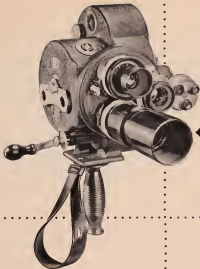
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Hollywood Bulletin Board



• CHIEF, R. DUMMIE was honored guest of American Society of Cinematography at Society's May 24th meeting. (Seated was chairman of cinematography who had arrived with DUMMIE in early days of old Lasky studio. Seated above (left to right) are: Hal Kraus, Rella Hertz, Roy Minter, Lew O'Connell, Alvin Wyckoff, Mr. DUMMIE, Gordon Jennings, Karl Strom and Charlie Risher. All but Jennings and Risher are ex-Lasky cameramen.

AS PART OF the motion picture industry's public relations program, the first all-industry short subject designed to acquaint the public with Hollywood operations is underway at 20th Century-Fox studios. Directed by Otto Lang, subject will deal with art directors and their work. The second subject, for which the director is yet unnamed, will deal with studio cinematography and functioning of the camera crew.

TWO REEL COMEDIES will likely be the size-in-the-hole for Hollywood's major studios when television develops to full bloom, according to John White, Columbia Pictures' short subjects department head. White believes the two-reelers will be the motion picture industry's introduction to television. The transition from movie shorts making to the making of films for television could easily be accomplished in any major studio short subjects department, White said.

CRACKDOWN on the television film field has been launched in Hollywood by head of the local cameramen's union, it is reported, with the union announced ready to take all steps necessary to ensure union cinematography on all television films. Union heads state there is possibility that producers will not get their product processed at the laboratories if filmed by non-union men. In San Francisco, unions are reported in a drive to organize all tele-photographers in the western states. Steps also were taken toward using Associated Press, United Press and International News Service camera men

and photographers to 16mm cinematography in order to cover events for video.

TWO A.S.C. members have turned film producers and are now in Sweden making a picture for early fall release. John W. Boyle, A.S.C., and Edgar Bergen who is an associate member and a skilled photographer as well as a radio and screen star, sailed June 1st for Gothenburg. Story being filmed, which is aimed at the television market as well as theatre screen, has to do with experiences of Bergen, Charlie McCarthy and Mortimer Snerd on a trans-Atlantic voyage and the exception given them in the land of ideal.

CHARLES ROISNER, A.S.C., heads a committee that includes John Boyle, Arthur Edson, Sol Halperin, Fred Jackman, and Karl Struss, all A.S.C. members, which is preparing plans to establish an experimental photographic workshop in basement of the A.S.C. clubhouse. Facilities will be for exclusive use of members of the Society interested in meeting and working together on photographic problems, both still and cinema. Workshop will afford cinematographers opportunity to test new film, lighting equipment, lenses and other cinematic apparatus and will eventually include a shooting stage complete with lighting facilities as well as film developing equipment.

JERRY FAIRBANKS enabled NBC to shoot the theatre newswrecks with celebrity pictures of recent Oregon flood, by dispatching a 16mm cameraman to the

(Continued on page 247)

... where credit is due.

AMONG the millions of thespians who use entertainment motion pictures daily, only a relatively few have any conception of the important part played by the dancers of photography in the picture success. When moved to rest or surprise by a particular scene or bit of action, few cinematographers realize that it was because carefully planned photographs combined with the players' performances to produce the illusion that moved their emotions.

Members of the A.S.C. are constantly striving for new and more realistic effects in their photography yet their efforts and the scope of their art are little understood by those outside the circle of the profession. When not actually on a picture assignment many pursue photographic experiments or study which invariably result in distinct photographic contributions marking a successful new picture.

The A.S.C. currently is engaged in making these facts known to the public at large through a carefully planned public relations program that will carry the revealing story of Hollywood's cinematographers to America throughout.

That American cinematographers and A.S.C. members in particular have contributed much to the success of Hollywood pictures, for which they receive all too little credit goes without saying. A.S.C.'s new public relations program should remedy this.



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ON THE COVER

LATEST sound to tanks of 16mm. movie makers is Mickey Rooney who filmed some of the action in "Watch and Men", his current picture, under working of Charles Risher, A.S.C., who is photographing the production in Technicolor for M-G-M. Risher, who took up photography as a hobby over thirty years ago, has been a regular 16mm. exhibitor for past twenty years, devotes much of his time helping others get started in hobby of amateur movie making. He is considered one of the best Technicolor photographers in the profession today.

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For

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- movie amateurs
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Keeping up with

PHOTOGRAPHY

"Seeing Eye" Spotlight

Recently, a new spotlight, which is designed to have a profound influence on the technique of lighting movement on motion picture sets and cameras, was demonstrated for the first time at the Marple Lane Studios, London, England. Conrad Boile, a Swiss inventor has applied the principles of Radar in producing a mechanism which synchronizes the beam of a spotlight with the lateral or vertical movement of a player or object. It works as follows: The player wears an infra-red button (a piece of crystal covered with a red fiber), anywhere he likes, provided that it is within the spotlight's arc of light. The infra-red button reflects the beam back to a number of lenses, which in turn set a special motor (called a servo motor) beneath it in action. The servo motor is wired to the spotlight—thus completing the circuit.

Should the script call for shots of the player, back and forth, a second button on his back is the solution.

Naturally the button being infra red will not show on the negative. The effective range of the present working model is 100 yards. Within that range, the spotlight will hold a car moving at 60 m.p.h. evenly lighted throughout. At present no more than three players can be lighted at one time by the one spotlight. But according to the inventor, there are no obstacles so extending the range in depth or width.

The servo motor can serve a dual role. It can be connected with the camera in order to provide (a) automatic focus—(b) automatic control of the camera and dolly in a panning shot. The servo motor (at present rather noisy) is to be improved and rendered soundless.

Boile pointed out that efficiency of the spotlight will not be diminished even by the presence of cross beamed lighting.

Report On Light

Studies of the surface scattering of light occurring at optical boundary surfaces and a new method of measuring surface scattering are reported in a monograph now on sale by the Office of Technical Service, Department of Commerce. The monograph in English was prepared by Dr. Paul Keck, former head of a laboratory of the Carl Zeiss optical firm at Jena, Germany, under the auspices of the U. S. Office of Military Government in Germany.

The surface scattering of light at optical boundary surfaces is significant. Dr.

Keck explains, because it affects the performance of lens systems, mirrors, optical flats, telescopes and the like. The presence of scattered light signifies an interference pattern, he states. This involves a loss of light and superimposed scattered light which may occur either in the image plane or within the field of view. Under certain conditions scattered light can prevent the observation of certain structural details of an object. With a well polished surface glass the amount of scattered light compared with the entire incident light is small.

Dr. Keck, in the report, reviews all available literature on the subject and examines current methods of measuring scattered light. Complete geometric-optic relations with respect to scattering are given. A new and extremely sensitive instrument, for measuring scattered light and its applications for optical flats, lens systems, telescopes and mirrors are described. A new standard is suggested for the exact measuring of glass polish. Twenty three diagrams and several tables of data are appended.

Microphotog copies of report (PB 73486, *Methods of measuring scattered light at optical boundary surfaces*, 62 pages, May 1947) sell for \$1.75. Order from the Office of Technical Service, Department of Commerce, Washington 25, D. C.

Films For Television

Home run films taken at Delaware Park by track stewards for use in catching foul and rough riding have been turned into exciting commercial television trailers. The track is using 16mm films taken during the running of last year's Pelly Dwyer Handicap with a background voice telling about this season's coming events.

The entertainment value of this type commercial is so strong that television officials look for auto race promoters, baseball, football and basketball team curuses, etc., to follow the format. The track has signed for six such announcements and one ten minute film period on WCAU's television station in Philadelphia.

Waiting List

Several thousand people wishing to enter the Danish film industry are now on the list of that country's Apprenticeship and Training Council and although the planners have estimated that 2400 fully

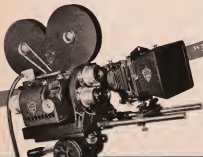
(Continued on page 251)

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• **IN FILMING** for television, the camera must be carefully centered on the players and action because of the curvature of the television receiving tube. Any action at edge of picture is likely to be missed.



• **CLOSE GROUPING** of actors is a must because of the limited size of television screen. It takes sharp images and facial reactions are to be required; players must remain closely grouped.

PHOTOGRAPHY FOR TELEVISION

Jerry Fairbanks, one of the first to explore use of films for television, tells of restrictions video's limited screen holds for the cameramen entering this new field.

By FREDERICK FOSTER

REMEMBER how it was back in 1927 when talkies' changed the whole course of motion picture production, upsetting camera techniques that had been in practice for so long? Something like that is about to take place again, for now it is television that is coming of age—a medium of mass entertainment in which motion pictures are destined to play a dominant part.

Not that television will change all cinematography practice—only that which applies to motion pictures made for telecasting. In the comparatively brief time that television has been with us, it has enabled its production experts to evaluate its needs and shortcomings and to arrive at this decision: the most satisfactory and successful television programs will be those produced on film.

As a result, almost every major motion picture studio is laying plans to either set up a separate television film produc-



• **THE CAMERAMAN** moves in for a closeup in one of the "Fights Foraster" video films made by Jerry Fairbanks (right) for NBC, which employed many new techniques developed in three years of research.

tion unit, or edit versions of feature and short subjects footage especially for video programs. Studio short subjects departments are particularly adapted to this type of program production, as has already been proved by Jerry Fairbanks' Strand, which produces most of Paramount's short subjects, and which has contracted with NBC to make all of its television program films, including two newswire series.

With perhaps more actual experience in this new field than any other major picture producer, Fairbanks becomes an author-

(Continued on page 248)



• BEFORE shooting began on "Rope," director Hitchcock called his production staff and some of the cast together to chart the action and photography. Hitchcock outlined the action in a model of the set while Joe Valentine, A.S.C. designated camera movements on blackboard.



• HITCHCOCK'S new technique called for shooting the action continuously without any breaks for changes or long shots. That it was necessary to call the cast together for sound table rehearsals prior to starting each 925 foot take.



• THE CAMERA had to move about freely in the set, changing position frequently, in order to follow the action. This made it necessary to close the stage of lights and to mount all illumination units overhead. The same is to done in lighting television sets.



• WELLS of the set were hung from overhead tracks so they could be moved to allow camera to follow the action through screen doors. Thus he replaced quickly. His director of photography Joe Valentine rehearses with camera will take action continuously to shoot scenes.

'Rope' Sets A Precedent

Each take averaged 925 feet in length in this newest of Alfred Hitchcock productions photographed on a single set.

By VIRGINIA YATES

NOT UNTIL September will you have an opportunity to see *Rope*, a picture demonstrating a unique and successful departure from the familiar technique of filming motion pictures. This Technicolor production, photographed by Joe

Valentine, A.S.C., is the culmination of years of careful planning by director Alfred Hitchcock.

Actually, planning of the picture began back in 1946. The locale was London. And the subject under discussion by

Hitchcock and British theatre owner, Sidney E. Bernstein was how to make movies.

"Why not film plays while they are enacted on the stage," said Mr. Bernstein, "if not for commercial use, at least for research. Think what it would mean if we could sit in a projection room today and see Booth, Salvini and Sarah Bernhardt portraying their most famous stage roles."

There is one play that would lend itself to such treatment, said Hitchcock. "It's Patrick Hamilton's play *Rope's End*."

"You mean shoot a performance of it right on the stage?" asked Bernstein.

"No. Shoot the play as it is enacted on a sound stage. Shoot the action continuously, stopping only when the film is used up in each reel."

Earnedly Hitchcock outlined the idea and convinced Berenson that this play was the perfect vehicle for the experiment. The perfect initial production for their newly formed company Trans-lantic Pictures. Actually the idea had been one of Hitchcock's pet dreams for a long time. But he had needed a story that had no time lapses, and a story that took place on one set. *Rope's End* which will be released by Warner Bros. in September under the title *Rope* was the perfect choice.

It was also Hitchcock's idea to do the picture in Technicolor. "Because," as he explained, "I've waited 17 years to find a story of my type in which color plays a dramatic role. In *Rope* color will denote the change in time of day from sunset to darkness which is of vital dramatic importance in the story."

Thus began a project that may prove to be as revolutionary in the technique of filming motion pictures as the introduction of the close-up, the camera boom and sound.

On Warner's sound stage No. 12 a special floor was first built. It was raised four inches above the permanent floor and lined with felt. It was built absolutely level and rigid enough to carry the ponderous 685 pound Technicolor camera and boom without creaking or sagging. On this floor was constructed the one set for the film. It was a penthouse apartment consisting of a kitchen, dining room, hall, and living room. All of the walls were hung from overhead tracks so they could be moved manually to allow the camera to follow the actors through narrow doors, then be replaced quickly when necessary. It featured a large window and looked out over the New York skyline.

(Continued on page 246)



• TO INSURE that camera dolly, riding line of ray tracks, would be returned to its proper position for each angle during the long takes, painted circles, indicated by arrow, were marked on floor of the set.



• APPLICATION to 16mm. printer of new curing device is shown here. Two magnetic detectors scan both edges of film. When spot of metallic paint passes, other detector signal is released to mechanism to cause a light change or pressure before detectors or other special cinematic effects.

MAGNETIC CUEING

Dabs of metallic paint applied to edge of film supplant notching as means of cueing originals for printing.

By JAMES LARSON

FOR MANY years, all motion picture film printers have used curing devices that require cutting notches in the edge of original film to be printed. There are many disadvantages to this method of curing, especially with 16mm. films.

First, the notches are permanent. When changes are made in the printing procedure requiring a new curing pattern, some of the old notches must be eliminated by filing them in by a very tedious process of punching up the film. Then a new notch pattern must be cut.

Also, it is generally accepted that the notching process has a tendency to weaken the film and make it more subject to accidental damage in the printer. Furthermore, it is invariably possible to make a greater number of duplications from a film that has not been notched than one that has.

The third disadvantage of notch-cueing, of course, is the fact that in some printing machines a very definite sideways jump of the film occurs when the notch passes the printing aperture, caused by the pressure guide plate bearing against the opposite edge of the film. Thus, when the notch passes this guide plate, the film moves sideways causing the picture to appear to jump sideways on the screen.

There are probably other important disadvantages to edge-notching films, but those described above were sufficient to motivate development of a new method of curing film by Academy Films, producers of 16mm. educational motion pictures in Hollywood. Under direction of the author, a new magnetic curing device has been developed that eliminates curing notches in the film. Instead of notching, this new system requires only the application of a small dot of magnetic paint

(Continued on page 244)



A TYPICAL of many of the lighting problems encountered by Lucien Ballard as photographer. *Berlin Express* is shot here in the interior of a bomb-shattered brewery where extreme depth of field was a prerequisite.

• DIRECTOR of photography Ballard, discusses a camera angle with Mrs. Ballard (Marie Olsen) on location in a Paris railroad station. While public forces were frantically employed when shooting in such crowded scenes and were responsible for some highly dramatic compositions.



The story of filming

'BERLIN EXPRESS'

By HERB A. LIGHTMAN

MANY DIRECTORS of photography interpreting the documentary approach in shooting plays today endeavor to "hold a mirror up to Nature," with the inevitable result that their photography often has a disturbing harsh quality. Cinematic purists inevitably find this lack of refinement as "Art," maintaining that the unvarnished simplicity of the thing is what makes it go. Actually, a great deal of just plain poor photography has thus gotten by under the guise of documentary realism, but directors of photography in Hollywood are proving that realism and studio finish can be successfully combined.

Lucien Ballard, A.S.C., succeeds brilliantly in polishing the mirror which he holds up to Nature in "Berlin Express." Even the studio-hired sequences have a convincing realism, and the location footage has the finish and high quality which American audiences have come to expect

in top Hollywood studio productions. The blending of the two styles created a perfect medium for the telling of a story with a factual background.

"Berlin Express" is the story of a girl and four men of assorted nationalities all of whom are traveling separately to Berlin on the train from which the film takes its name, and who become involved in the murder of a German peace-maker while en route. Upon arriving in Frankfurt they are informed that the murdered man had been consulting his identity to protect the real diplomat, whereupon said diplomat is promptly kidnapped and the chase begins in earnest.

The story provides a substantial framework for the forceful direction of Jacques Tourneur and the masterful camerawork of Lucien Ballard, A.S.C. Credits and achievements alike are rare to compare Tourneur's deft directorial style to that of Alfred Hitchcock at his best. Director of

photography Ballard's camera is perfectly attuned to the suspenseful mood and pace of the action, and he deserves special praise for infusing his location photography with the quality and polish typical of the finest studio production camerawork.

"Berlin Express" opens with a montage of scenes in and around Paris which gives the film something of a "March of Time" atmosphere. The narrator sets the stage as the camera picks up views of Notre Dame, the Eiffel Tower, the Tour d'Argent, the Sacre Coeur Cathedral and the swarming streets of Montmartre. In the latter location, some children shoot a pigeon and discover that it has a code message strapped to its leg. When the message is taken to the police the plot begins to unfold and the story moves rapidly from situation to situation.

In order to photograph sequences in Paris, Frankfurt and Berlin, RKO Radio sent a crew and cast of 27 people to Europe for a period of seven weeks. They took along approximately 100,000 feet of film, which incidentally created a considerable storage problem. In each city they had to locate a suitable place for it, such as a cellar or a vacant office in an army-occupied building, but in a bombed-out city storage space is obviously at a premium.

The second major problem concerned the processing of the film. Laboratory con-

disasters in Europe were uncertain to say the least, and it would have been impractical to try to maintain precise standards on control under such conditions. There was no alternative but to fly all exposed footage to the United States for processing, and although periodic laboratory reports were sent out, the crews saw none of the scenes until it returned to Hollywood.

Standard photographic equipment on the overseas jaunt included Mitchell cameras equipped with wide-angle lenses which proved valuable in filming the crowded location sets and also permitted the cinematographer to achieve some unusually dramatic compositions. On one occasion, in order to photograph an actual black market trade in Germany, the cameramen were dressed in police uniforms and accompanied the Military Police, shooting the entire sequence with hand-held Eyemoes. For scenes filmed in Paris the crew used a standard two magazine Decline sound camera.

Motion picture equipment is very scarce abroad and it was indeed difficult to find any that could be borrowed or rented. For this reason, everything that would be needed had to be brought from Hollywood. The company was fortunate, however, in that it located the only available camera car in France, and was able to arrange to use it for the entire seven weeks on location. Extra technicians were hired in France and Germany, the movie industry in both countries providing the necessary skilled men.

Berlin Express succeeds in projecting an atmosphere of desolation underscored with shifting currents of intrigue, drama and unquenched hope. This effect is the result of a combination of skilful direction, lighting and camera angles. The

Despite equipment shortages and other handicaps, Lucien Ballard, A.S.C., has accomplished some startlingly realistic photography in this monochrome production for R. K. O.

piles of rubble which form the backgrounds for much of the action might have appeared incoherent and unimpressive had they been photographed by a less skilful cinematographer. Pools of rain, sun and wind had faded the piles of debris to a colorless mass, and it required masterful cross-lighting to faithfully put across the drama of the terribly devastating lightning that hit the ruins, under certain lighting conditions, the black gaping holes appeared to be merely darkened windows, and it was difficult to capture on film the magnitude of destruction and the desolation of the buildings. On the recommendation of one cinematographer Ballard, the shooting schedule was revised to take full advantage of cross-lighting by the sun. The resulting scenes are starkly dramatic with a depth and dimension that makes the lonely wreckage stand out in strong relief.

Much of the action of the picture takes place at night, and these sequences are among the most realistic and impressive in the picture. With one exception, all of the night shots in the film are actually heavily filtered day shots. For lighting in these sequences the camera crew relied principally upon the sun and fill in reflectors, although a few flood lights were brought along from America for this purpose. It was impossible to get enough electrical equipment in either France or Germany to shoot actual night scenes. The opening scene outside the Gare de L'Est in Paris was the only one actually filmed

at night. Producer Bert Graner had to borrow every generator in Paris to do it, but still the scene was underlit.

In viewing the film, even the experienced technician may get the impression that the crime picture was photographed in the actual locale. There is a consistent quality in the photography throughout, a careful matching of interiors with exteriors, of lighting cameramen, and process backgrounds with actual scenes. The remarkable consistency of the process backgrounds is due chiefly to the foresight of Ballard who insured that process cameraman Harry Perry go along on the European trip. On location, after Ballard had completed shooting a major scene, the process cameraman would then set up in the same place and shoot the same background with identical lighting. Thus, the common production problem of backgrounds that are out of key with the general photography was completely solved. The process shots in 'Berlin Express' are so well-executed that it is difficult even for the experienced eye to identify them as such.

While the photography throughout the film is uniformly excellent, there are several effects which stand out as being extraordinarily good. In one sequence a character who has just been shot staggers through a crowd of people and pitches forward toward the lens of the camera. The screen goes black for some seconds and then, as the man is lifted up by his

(Continued on Page 230)



* OUTSIDE the bomb-ravaged Reichstag in Berlin, the cast and crew of Berlin Express, prepare to shoot a scene. The troupe, numbering 27 players and technicians, spent seven weeks in Europe.

* DOLLY tracks are laid in the cobbled streets of Montmartre while director Jacques Tourneur, at right in foreground, plans his next shot. Cinemascope only mildly interested in the proceedings.



• FIRST "80" boom to be equipped with Arnold's invention is being used by Joe Rothman, A.S.C., in shooting scenes of M-G-M for his current production assignment, "The Bride." During a full on the shooting, Rothman explains operation of boom to Ava Gardner also in the picture.

• JOHN ARNOLD, A.S.C., (left) points out major construction of his recently patented boom control to Richard Daniel M-G-M development engineer. Control affords boom a graduated range of 40 speeds forward or reverse.



Speed Boom

New electronic control for camera boom, developed by John Arnold, A.S.C., affords greater speed and flexibility on the set.

By E. A. HUNTER

THE RO CAMERA boom in use at M-G-M are being motorized and fired with a new type controller that enables one man to move the heavy boom in a fraction of a second and at greater speed than ever before possible.

Invented by John Arnold, A.S.C., head of Metro's camera department and who also invented the camera boom on which the controller and motor drive have been installed, the controller provides gradual speeds forward and reverse. Dynamic braking is afforded by the motor itself.

Mounted within the boom track chassis is a noise-damped 10-horsepower 110-volt DC traction motor which is coupled

with a conventional automobile type rear axle, complete with differential.

Ahead of operator's seat on right side of track is mounted the controller, a drum-type housing containing a motor and a snail with 80 segments. Leads from these segments run to a series of resistance coils which provide the variation in current necessary for altering speed of the driving motor. Operation of the snail is smooth and noiseless. A handle extending from the side is gripped by the operator and moved forward to propel boom in that direction, and backward to reverse the direction of travel. Control is so sensitive that boom may be moved as little

as a fraction of an inch in an instant and stopped dead without backlash because of the dynamic braking afforded by the motor.

A safety feature is the warning light mounted on rear of boom which signals to anyone on set who might be standing in its path as the boom is reversed. Light, which is similar to an automobile "stop" light except that it is white, is flashed on automatically as operator reverses control lever.

The boom improvement is the culmination of tests and experiments which Arnold has been conducting since 1940. Although the controller was completely developed some time ago, advent of the war and subsequent restrictions on materials made it impossible for Arnold to obtain the motors and the copper, brass and chrome necessary for construction of working models until recently.

The first boom so improved was recently placed at the disposal of Joseph Rothman, A.S.C., who is now using it in shooting scenes for his current picture, "The Bride," starring Robert Taylor and Ava Gardner and directed by Robert Z. Leonard. One of its many advantages,

(Continued on Page 299)

NEVER

have we seen
better screen evidence
of photographic superiority
than in this year's program
of fine feature films
photographed with

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Beware of the Beach! In beach photography, it will pay you to remember that the breeze carries sand, salt,

and moisture. When you're not actually using it, keep the lens capped and the camera in its case.

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HYPAN FILM

MAKING MOVIES FOR MONEY

You can make your cine hobby pay its
way by shooting movies for others.

By RALPH LAWTON

Photos By Los Angeles Recreation & Park Dept.

FOR A LONG time now, ambitious amateur photographers with Leicas, Speed Graphics and assorted still cameras have been making their hobby pay its way through the sale of pictures. Only recently have a few movie amateurs found that there is a market for their photography, too.

There is a market for 16mm. motion pictures, not lucrative enough for the professional, yet sufficiently remunerative in cash and personal satisfaction to lure the advanced cine photographer.

You do not have to go to Hollywood or New York to find these opportunities. They exist in your very community. Of course, you probably will not find people advertising for your services or out on the street looking for you. You'll have to dig the prospects up yourself. But they're there.

(Continued on Page 230)



* THERE'S a steady market among the diving fraternity for analysis movies which enable the eager athlete to see himself in motion on the screen, thus leading to correction of errors for quick improvement.



* MANY golfers wanted to advance from the dub class and readily pay for movies that show them how to improve their driving, putting, etc.



* SWIMMERS, too, trying to rise to professional ranks, can shorten training and improve stroke through a study of form movie made of them.



* HOPEFUL tennis star apparently can be sold movies which show their playing form, point out their faults—thus leading to improving their game.



• OUTDOORS in bright sunlight when the same light is falling on the camera as on the subject, incident light readings may be made from the camera position with the meter's element pointed toward the lens.

MOST DIRECTORS of photography in the motion picture studios agree that measuring incident light is the most infallible method for determining correct exposure.

It was the increasing use of Technicolor over black and white film that brought about recognition of the incident light method as superior to older methods of calculating exposures for photography. With black and white film, there is latitude for some error in exposure that can be adjusted in the developing and printing—something that cannot be done with the same results with color film, either Technicolor or Kodachrome. Then you've got to have exposure "on the nose" in order to get satisfactory color renditions with Kodachrome or Ansco Color.

Briefly defined, incident light is that which falls directly upon the subject toward the camera. Until recently, the incident light method of exposure determination was confined to professional cinematography since there had not been developed an incident light meter that could be operated rapidly and accurately by the non-professional movie maker. When Capt. Donald Norwood developed the simple and now well known incident light meter which bears his name, he

Basing Exposure On Incident Light...

This new method makes possible direct and positive control of all lighting factors with speed and assurance.

By CHARLES LORING

paved the way for the amateur cinematographer to use the professional's method of calculating exposure and thus improve the quality of his photography.

Karl Freund, A.S.C., appreciating the merit of the new instrument, was one of the first to use the Norwood Meter in studio production and later became identified with the manufacture of the Model

(Continued on Page 242)



• PROFESSIONAL cinematographers consider the incident light method of exposure determination the most accurate. According to this system the meter is held at the subject's position and pointed toward the camera. Meter design is such that it measures light falling upon subject from all angles.



• FOR FREEST indoor lighting, the key light is turned on and an incident light reading taken. Then the key light is balanced to the proper degree of contrast desired. The Norwood Incident meter shown in use here was developed especially to meet needs of the serious amateur and semi-professional cinematographer.

FOR "EIGHTS"



7mm 1/3.7 lens

This fisheye lens, wide angle lens for the Cine-Kodak Aquamare 8 Camera, increases the field of view, captures the whole scene.



25mm 1/1.9 lens

Standard for most 8mm Cine-Kodak cameras, the lens, but lens is also produced as a "25mm" telephoto lens for the "Eighty"



35mm 1/2.5 lens

Provides more images 3 times as large as those produced by standard 12mm lenses used in the same filming situations.

"EIGHTS" and "SIXTEENS"



50mm 1/3.5 lens

Remarkably priced, the 50mm 1/3.5 is a remarkably satisfactory long-focus lens for use when the widest pictures are not needed.



90mm 1/1.4 lens

Part of the Cine-Kodak telephoto lenses, it provides a 4-times magnification on 8mm cameras, 2 times on 16mm cameras.



135mm 1/2.7 lens

The longest focal length recommended for 8mm cameras, provides a magnification of 3 times, 20 times on 16mm.

FOR "SIXTEENS"



102mm 1/2.7 lens

Remarkably fast for a lens of its focal length, the 102mm 1/2.7 produces 4-times magnification on 16mm movie cameras.



152mm 1/4.5 lens

Designed for ultra long-range filming, provides images 5 times the size of those produced by the standard 72mm lens.



18mm 1/2.7 lens

A wide angle lens is actually used on 16mm cameras, it can be focused down to as little as 6 inches for ultra close-ups.

Cine-Kodak Accessory Lenses

Close-up movies from way back... movie portraits filmed from discreet distances so that your subjects are unposed and unflinched... scrumpage-doo sports shots made across a hundred rows of seats... studies of way wild life, third birds and game—these are "naturals" for telephoto movies... and so are scores of other shots that can add variety to your movie reels.

Cine-Kodak long focus lenses—no magnifications ranging up to 5 times for 8mm cameras... 6 times for 16mm cameras—provide the solution whenever you just can't move in on your subject. But that's only part of the story, for these lenses are useful, too, when you can—and do—move way in for really magnified shots of tiny movie subjects: fragile flowers, insects, machine parts, and the like. For all Cine-Kodak long-focus lenses have scales that permit remarkably close-in focusing. And for use with cameras equipped for manual focusing and centering, most are provided with releases that make possible moving in even closer—beyond the limits of the focusing scale—in camera-to-subject distances as short as 10 inches.

See your Kodak dealer. He can show you how our two Cine-Kodak Cine Lens Adapters will equip your camera for telephoto filming, and can help you select the Cine-Kodak lens that best fits your needs. Ask him, too, about the Cine-Kodak Tripod, a rock-steady and fully flexible camera support that's helpful in any filming—a necessity in movie making with lenses of the longer focal lengths.

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Cine Kinks

IF YOURS is a small typewriter sizer, you can make a scroll device out of a second Quaker Oats box. Thrust a heavy wire through ends for an axle and route it back of title card holder.

TO TINT short lengths of movie film, or develop title films, use a gallon jug for your film drum. Wrap film around jug, then insert it in larger container partly filled with developing solution. Secure ends of film so jug with scotch tape.

FOR EASIER threading of positive film on camera spools in dark, when a red side-light is used, paint a line on edge of slit in core of spool with red or white paint. Also paint a line on edge of spool flange to indicate position of slit.

EMERGENCY thesizing light for your projector may be made from a small pen light tied to a snap clothes pin. Pin affords clamping light to projector, thus releasing hands for threading film.

TO REMOVE dust that collects on edges of film aperture during screening of a picture, blow it away, without stopping projector, using a small hand syringe available at small cost from your drug store.

FOR RAPID rewinding of movie films, attach a sewing machine motor to your editing board so edge of reel, mounted on rewind, rides on motor pulley. Use regular sewing machine motor foot switch to control speed.

FOR QUICK identification of wound and non-wound ends of film, use white leaders, and black tail pieces after the end title. Thus, a white leader indicates beginning of film, black, the end.

TO SHOW MOVIES in bed-ridden theatres project movies on ceiling of room, using a mirror set before projector at an angle of 45°.

LABELS will adhere to darkroom bottles and film cans if made on strips of painter's masking tape.

TO KEEP film flat, while subjecting it to dye fade solution, make a support from a length of wire about 12" long. Bend wire at ends to form hooks to fit in sprocket holes. Insert film thus mounted in a narrow bottle filled with fading solution.

Are You "One In A Million?"

You are if you shoot amateur movies. Eastman Kodak Company reveals that more than 1,000,000 Americans today are regularly using 8mm. and 16mm. cine cameras.

Today it is estimated that there are more than 1,100,000 families in the United States who own amateur movie cameras. In the 16mm. field there are an estimated 525,000 cameras in active use, in the 8mm. field the total reaches an estimated 775,000. Approximately 950,000 families, or nine out of ten owning movie cameras, also own a motion picture projector of some type.

In addition, 16mm. movies, both silent and sound, are today playing an ever more important role in education, sales, and scientific and industrial research. Spurred by the tremendously successful use made of training films by the armed forces during the war, it is estimated that approximately 1/3 of all sales of amateur size movie film and equipment are for other than amateur movies.

The first quarter century of home movies—during which movie making on 8mm. and 16mm. films has grown to an internationally popular hobby and an important aid to education, science, business, and industry—will come to an end July 5.

On that date, in 1933, the Eastman Kodak Company placed on sale in New York City the first complete 16mm. motion pic-

ture outfit—including camera, film, and projector—and announced the first amateur film processing service which made possible movie making for everyone.

The reversal film—in which the image on the film was reversed from a negative to a positive during development—was the prime factor in making home movies economically practical. Prior to its introduction, amateur movie makers used either the regular 35mm. film, some split from 35mm., or 55mm. with two or more rows of pictures. Some of the film widths were 35mm., 28mm., 22mm., 21mm., 17.5mm., 16mm., 15mm., 11mm., and 9.5mm. To add further to the confusion, perforations varied in size, shape, and location. Another deterrent to amateur movie making was the high cost of film since it was necessary to use both a taking, negative, film and a projecting, positive, film.

The quality of the finished amateur print was often, in those days, not too good because of poor development and printing equipment and/or inexperience on the part of the individual doing the processing. Graininess was also a problem, espe-

(Continued on page 249)



A FIRST CINE KODAK was this first number operated by hand crank. It afforded focusing directly on the film by means of tubular through-the-camera finder extending to back of camera. Some models were subsequently provided with an electric motor operating off rechargeable batteries. By 1923, smaller streamlined Cine Kodaks replaced this "Model A" and in 1932 Eastman Kodak introduced the first 8 mm. cameras and film. Today there are in regular use more than 1,000,000 8 mm. and 16 mm. movie cameras. One-third of latter are sold to be in use in professional and scientific fields.



• HELICOPTER view was achieved, in shooting movement of cars on this miniature set, by use of Zeissar lens on the Cine-Special camera. Ten thousand eight hundred individual movements of the scale model cars were required for this scene for Aetna Company's latest 16mm film.

Insurance Company Produces Own 16mm. Films, Using Scale Models And Animation

By ARTHUR ROWAN

THREE-DIMENSIONAL animation photography with a Cine-Special lens—*Live and Let Live*, latest educational loss prevention film produced in 16mm color by the motion picture bureau of Aetna Casualty and Surety Company of Hartford, Conn. The bureau has produced twenty-five educational films for the company since its establishment in 1940 and is said to be the only complete 16mm film producing unit maintained by an insurance organization.

When plans for a new highway safety film were first formulated by the Aetna Company, it was decided to feature ten of the most important rules of safe driving.

The next step was to determine the technique to be used. Several factors influenced the decision to do the entire film in animation. Three-dimensional animation had been used by the Aetna motion picture staff in a short sequence of an earlier safety film on boating, "Safety Afloat," and experimentation and research showed that this technique would be especially suitable for a highway safety film for three reasons.

First, traffic sequences could be "shot" from above and, by offering a "helicopter view" of both auto and unsafe driving practices, the film would show more clearly than by any other method, how accidents happen, why and how they may be avoided.

Second, complete control of the set could be had at all times, a condition which would be almost impossible in outside location shooting. Exact road conditions could be set up and seemingly serious accidents staged without danger to life and limb.

Third, in three-dimensional animation single-frame photography is used and there is no image blurring of subjects, even when they are "moving." In addition, the central subject can be kept in absolute focus and the finished pictures have an almost startling clarity. This clarity was absolutely necessary because of the diagrammatic nature of the proposed film.

The decision to use animation in filming "Live and Let Live" brought with it a multitude of technical difficulties—designing and building miniature sets, developing backgrounds, and the technique of moving scale-model cars and trucks on the sets realistically into the solution of these problems went much thought and many man-hours of labor.

Each set—and there were fifteen—was built on a quarter inch scale, and was devised, designed and built by the staff. A minimum of prefabricated material was purchased and much improvisation was necessary.

The movement of cars on the sets was the greatest problem. Each movement had (Continued on page 245)



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Director
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- provides best flash-tube rendition.
- includes special one-scale of frames per second.
- most versatile for motion picture production.

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Photogrid—Measures brightness range—aid in controlling brightness of prop lamps within the scene.

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The perfect speed lens, color corrected, some visible flare when sports, portraits, general work, color film.

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Model A **\$49.50**

JOSEPH YOLO

5968 Santa Monica Boulevard
Hollywood, California

BASING EXPOSURE ON INCIDENT LIGHT

(Continued from page 238)

A meter. At first this model sold for a high price and was available only to Hollywood directors of photography. But recently the Model B meter was put into mass production by the American Bolex Company and is now available on the general market at a popular price.

In taking incident light readings, the meter is held at the subject's position and pointed toward the camera. Thus, the light falling on the subject is measured at the angle from which the camera lens will see it. The Norwood Director has a detachable plastic hemispheric (called a Photodisk) mounted over its photoelectric cell aperture, which enables it to register the light falling upon it from any direction. This makes it possible to measure the combined intensity of the key light, the fill light, the kicker and the top light.

Making incident light readings for exterior movie scenes with the Norwood meter amounts to nothing more than ascertaining the intensity of the sun as it falls on the subject, and converting that reading to the proper aperture opening for the camera's shutter speed and the speed of the film stock being used.

The meter is held at the subject, with the photoelectric element pointed toward the camera, and the exposure is read. These results are obtained by holding the meter at arm's length so that any reflection from light clothing worn by the user will not interfere the reading. For most outdoor cinematography, where the general illumination is the same at the camera position as at the subject, the meter may be held at the camera position instead. One must be sure, however, that the light falls upon the meter in the same way that it would at the meter were held at the subject. When shooting above or below eye level, the meter should be tilted at the same angle as the camera.

When filming distant views of mountains or other landscape features that are cross-lighted or back-lighted, experienced photographers find that results will usually be improved by slight under-exposure. The reason for this is that the dispersion of light by aerial haze as well as reflections from the subject itself cause the subject to photograph lighter than it appears to the eye.

In shooting atmospheres or brilliant sunsets, the usual procedure of incident light reading is reversed and the meter is pointed toward the scene. Actually, the basic principle remains the same since, in both cases, we are really measuring the intensity of the main source of light.

Let us say that you are shooting some close-up outdoors, using reflectors to fill in the shadow side of your subject's unde- face. With an incident light meter it is

possible to accurately measure the intensity of the reflected light from the reflectors as well as the direct light from the sun, and to balance the two in the most effective mix. Using the Norwood Director meter, for example, you would replace the Photodisk with the Photo-disk, a translucent plastic disk which fits over the photoelectric aperture. The Photodisk is first turned toward the sun and the needle indication is noted—let us say that it reads 5,000 foot-candles. Next the meter is turned toward the reflectors and shielded with the hand if necessary to prevent the direct rays of the sun from producing a false reading. If this reading is, for example 2500 foot-candles, then the ratio between key-light and fill-light is 2 to 1, an ideal balance for color close-ups. For color it is not recommended that the contrast between key light and fill-light be greater than 4 to 1, but in black and white filming very dramatic results can be produced by using lighting contrasts as great as 16 to 1.

Incident light exposure control really comes into its own when filming interiors, for here proper balance of lighting is even more important and more difficult to achieve than it is outdoors. The principle remains the same. Hold the meter at the subject position and point it toward the camera.

Now let us take, step-by-step, the procedure of lighting subjects on an interior set.

1. Decide what aperture you wish to use in filming the scene, and determine from the scale on the meter what your light level must be in order to shoot at that aperture with the shutter speed of the camera you are using. For example, an aperture of f2.8 at 1/50 (24 frames per second) will require a light level of 650 foot-candles for filming on Kodachrome Type A stock.

2. Next, turn on your key-light and adjust it at the desired angle for lighting your subject. Hold your meter at the subject, point it toward the camera, and take an experimental reading.

3. Move key light closer or further away until it measures 500 foot-candles on the meter (assuming that the addition of the fill-light will bring the general level up to the required 650 foot-candles).

4. Turn on fill-light and adjust it to the required brightness in relation to the key-light. Here, again, that brightness depends upon the ratio of contrast desired in the scene.

5. Next, turn all lights on and take an incident light reading from the subject position. The meter should read 650 foot-candles. If it doesn't, vary your key-light intensity until it does. This usually re-

quency very little adjustment.

6. In order to check your background (illumination, turn on just the background floods and carry your meter about the set, keeping the element pointed always at the camera. In this way you will be able to read the ratio of contrast between subject and background lighting, and you can determine whether or not your background is evenly lit.

The bone of the amateur cameraman when it comes to interior lighting usually concerns keeping extremes of brightness contrast ratio within the latitude of the film. Until he develops a feel for this factor, he may find that his highlights are "burned up" and his shadows are too dark.

The Norwood meter, converted by means of the Photogrid which slips easily over the photoelectric element, provides a very accurate means of measuring brightness contrast ratio in the scene. The Photogrid is a perforated disk which effectively converts the meter for the measurement of reflected light.

Now, it is accepted fact that most color movie emulsions will reproduce color properly, provided that objects in the scene are not more than 4 times brighter than the mid-point of brightness, nor 4 times darker than the mid-point (a total latitude of 16 to 1).

To determine the brightness contrast range of the scene with the Norwood meter, point the Photogrid toward various areas of the subject, holding the meter about 6 inches from the subject. By dividing the highest reading by the lowest, one can obtain the brightness range within the scene. If, for example, your highest reading were 64 and the lowest 4, then your ratio would be 16 to 1. Anything brighter than 64 in the scene would appear washed out.

Remember, when determining exposure by incident light readings on an interior set, always hold the meter close to the principal subject rather than near the camera, because the light is usually quite different in these two locations.

Because the control of exposure by incident light reading is relatively new to the average amateur cameraman, certain misconceptions arise which can be cleared up if the underlying principles are carefully explained.

For example, the question is often asked why you would give a light subject and a dark subject the same exposure (according to the incident light theory) just because the same amount of light is falling on each—when actually these two subjects reflect different amounts of light.

The answer is simply that an incident light meter gives a normal average reading of the subject in terms of how it would look to the eye under that particular light source. If a pile of coal and a pile of snow were both given the same exposure under an incident light source

"PROFESSIONAL JUNIOR" CAMERA EQUIPMENT

FRICTION TYPE TRIPOD



Top plate handles 16mm. EK Cine Special with or without motor, 35mm. DeVry, 8 & 16 Eyemo with motor and 400 magazine, Speed Graphic at 8 x 10 View, and all 16mm. hand-held cameras. The removable head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

Gear Drive head made of Dow Metal weighs but 5 1/2 lbs. and is interchangeable with the friction type head. It handles all types of cameras enumerated above. Snapping metal cranks control pan and tilt action from both sides. Worm-driven gears are Con't spec. bronze.



BLIMP for 16mm E.K.

CINE SPECIAL

The blimp, constructed of Dow Metal is thoroughly insulated to afford absolutely silent operation. Has many exclusive features that allow focusing and lens calibration changes from the out side while taking pictures. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image view finder.



SUNSHADE & FILTER HOLDER COMBINATION

For use with all popular types of 16mm. cameras. Holds two 2 1/2" glass filters and a round 2 1/2" Polarizer with handle which can be rotated for correct polarization. Covers all lenses from 15mm. to 5" telephoto and eliminates need of many other filters. Precision made of the finest materials. Completely suitable to assemble and disassemble. May be permanently affixed to camera or can be taken apart to put into camera carrying case.

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the snow would appear white, and the coal would appear black. If, on the other hand, you made reflected light measure-ments of both piles and compensated your exposures according to actual meter readings, both the snow and the coal would appear as grayish piles because you would have underexposed one and overexposed the other.

It is gratified, however, that a certain amount of compensation is sometimes desirable in exposing by incident light control because the subject as actually seen by the eye might appear too bright or too dark. Therefore, the cameraman is fortunate in being able to improve somewhat upon that which the eye sees.

If, for example, you were filming an extremely light colored subject, such as a white wall in full sunshine, a good deal of glass would be present. Even so the eye, the wall would appear better if you were wearing sun glasses that would cut down the glare. In such a case you would take your incident light reading in the normal way, but close the lens diaphragm $1\frac{1}{2}$ stop more than the indicated aperture. However, if a person is to appear prominently in the scene, do not make this compensation or the flesh tones will photograph too dark.

If, on the other hand you are filming an unusually dark subject, such as dense foliage, give the scene $1\frac{1}{2}$ stop more exposure than the aperture indicated by the

meter. Here, again, no compensation should be made if a person is prominent in the scene.

Incident light reading is based on exposure for the tones of the scene, the meter, in most cases, being the flesh tones. Flesh tone is the only tint in color photography which the unaided eye readily recognizes as either good or bad. All other colors may be acceptably lighter or darker, warmer or cooler, but flesh tones must be right.

However, any photographic subject may be rendered darker or lighter than it appears, according to the artistic desires of the cameraman. The Norwood Director meter establishes a consistent and known point of reference from which departures may be made to achieve special effects. This makes it easy to duplicate these effects at any time by utilizing the same departure in exposure as determined from previous experience.

Incident light exposure control is the professional technique of getting properly exposed movies, but the system no longer belongs solely to the professional cinematographer working on the Hollywood sound stage. More and more progressive amateur and semi-professional cameramen are discovering incident light exposure determination as a means toward lifting the quality of their film from the "home movies" class toward the professional level.

MAGNETIC CUEING

(Continued from page 231)

on surface of the film near the edge, between two of the perforations, and these actuate refo magnetic pickups which set the effect or change controls in motion.

The magnetic pulse, as we term it, is a simple formula that consists of chemically reduced powdered iron mixed in a binder of quick-drying lacquer, such as clear fingernail polish. A dab of this paste is applied to the film with a small brush such as is found in film cement bottles. The paste dries in about 20 seconds. The magnetic pulse may be applied to either the base side or the emulsion side of the film. If changes are made in the film, the magnetic dots can be removed by scraping the edge of the film with a single edge razor blade or other sharp tool such as a retouching knife. No damage to the film results from this scraping operation if reasonable care is exercised in the operation.

After being prepared for processing, the film is threaded in the printer in the usual way. A magnetic detector or pick-up head "senses" the edge of the film and every time a dot of magnetic paste passes, it causes a change of magnetic field in the pick-up head. This magnetic impulse is transmitted to an amplifier over a low impedance transmission line. A multiple

slip quadripole shielded input transformer with good low frequency response is used to insure good signal-to-noise ratio necessary for dependable operation.

The magnetic impulse is amplified in a high-gain low noise amplifier circuit. After amplification, the impulses are used to "trigger" a heavily biased one shot multivibrator with a rapid recovery time. The multivibrator operates a pilot relay which in turn controls a power relay. The power relay is used to operate the solenoid mechanism for light changes or fade-in and fade-out devices.

As finally designed the magnetic cueing device has two independent channels which operate from two separate pick-up heads. One pick-up scans one side of the film and is used to control light changes. The other pick-up head scans the opposite side of the film and is used to control a fade-in or fade-out device. The second channel could also be used to control a mechanism for inserting color correction filters in color printing. The cueing device can be installed on any existing motion picture printer. The installation is comparatively simple and can be completed in a few hours.

It is hoped that the introduction of this new magnetic cueing device will help to

standardize the film printing work in laboratories all over the country. If a standard number of frames between the magnetic disc and the printing aperture can be established, so that a film printed in one laboratory can be printed in any other laboratory without changing position of the magnetic disc, then a very great advance toward standardization and simplification will have occurred.

Although the device was originally designed and built for their own use, so many Hollywood laboratories have expressed interest in it that Academy Films has decided to manufacture and place it on the market.

INSURANCE COMPANY PRODUCES OWN FILMS

(Continued from Page 241)

to be photographed individually and consequently every move had to be figured mathematically and calibrated on the "highway" of the air. Several methods of locomotion were attempted. First the sets were moved in relation to a stationary car. Then magnets were used to move the tiny automobiles. These methods were abandoned and it was decided to move each object manually. This greatly increased the man-hours spent in producing the film.

One of the traffic sequences called for a six-lane parkway. This was to be a "pan" shot and the actual set distance to be covered was 20 feet. Cars had to be moved on all six lanes, and on three of the lanes they were moving in an opposite direction. In addition, one of the automobiles—the "culprit car"—was to weave from lane to lane to simulate the zig-zag driver. One thousand individual frames were shot during this sequence, and also, because it was a panoramic scene, the camera had to be moved one thousand times on a calibrated scale. Ten thousand eight hundred individual moves of the scale-model cars were required for this scene, which runs 45 seconds in the completed film, and which took eighty man hours of labor to shoot.

To get accurate car speeds, it was calculated that a quarter inch move by a car per frame represented a speed of twenty-five miles per hour. Other speeds were in multiples of this distance—50 miles an hour being shown by moving the car one-half inch per frame. The course each car took on the set was lined on the highway and graduated distances measured on this line, one graduation for each frame.

In addition to educational films on highway safety, the bureau has made films on fire prevention and home safety, crime prevention, narcosis and fear aid, industrial safety and sports safety.

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ROPE SETS A PRECEDENT

(Continued from Page 231)

The miniature skyline was probably the most important background ever built for a motion picture because the lighting of buildings, the changing sky and cloud effects from sunset to dusk—all seen from the apartment—were to denote the passing of time, so important in the story's development. This exact reproduction of nearly 36 square miles of New York skyline was lighted by 6,000 25-watt incandescent bulbs for the windows in the buildings and 200 neon signs which required 150 transformers.

As the mechanics of the set were being moved out, director Hitchcock rehearsed his shooting plan with his director of photography Joe Valentine, A.S.C., William Skell, A.S.C. from Technicolor and his crew and cast of eight: Jimmy Stewart, John Dall, Farley Granger, Joan Chandler, Sir Cedric Hardwicke, Constance Collier, Douglas Dick and Edith Evanson.

Hitchcock had worked out his plan to the last detail. The elapsed time of the story was one hour and 50 minutes. On the screen the picture will run one hour and 50 minutes. The script which was written without scene numbers was first rehearsed in sections of two minutes, because a reel of Technicolor film is never longer than 952 feet.

At the beginning of the rehearsal Hitchcock wouldn't commit himself on how long he thought it would take to get the picture finished. His comment was, "Because of the nature of the story we shall have to rehearse it well—whereas today most actors and technicians come on a set 'cold.' We hope to make the shooting go quicker—much quicker."

In the final count the picture required 36 days, 14 in rehearsal, 2 days of tests and 20 shooting days. After the initial rehearsal of the entire script the cast and crew would rehearse one reel and shoot it the following day.

To watch one of the new Hitchcock type "takes" was to watch something new under the Hollywood sun. It was like being backstage only more chaotic. For

each nine to ten minutes "take" the camera—mounted on one of David O. Selznick's posy express dollies—continuously followed the action. Actors did not rest when the camera was out of range because it would return to a different angle momentarily and they had to be in their position with new props. All of the furniture was wild. Tables and chairs were pulled away by four prop men as the camera swung through the apartment. The wild walls were pulled out of the way of the camera and then rolled back into position. Five sound men operated over head mikes. Five more boom boys cranked their mikes into and out of position on cue. Electricians, grips and cable boys knew each move in each reel as well as the stars.

To be certain that the camera dolly (riding free of any tracks) was rolled or pulled back in its right position for each angle during the long "takes," numbered circles were tacked to the floor. One technician's job was to indicate with a pointer the next camera position, and then give a hand cue for the grips to move the dolly to the next numbered circle. To help the grips in their ticklish chore of getting the camera exactly into position on each move, a flashlight was suspended under the camera directly under the lens. When the small circle of light which it cast on the floor was directly over the numbered circle the grips held the dolly at that position and breathed easier until their next cue.

According to cameraman Valentine, the most moves made in any one reel was 59 different angles. The least number of "takes" on any one reel was three. The most was 15.

"Our worst calamity," said Joe, "was the day one of the wild walls didn't move quite fast enough and the camera went crashing right into it. The crashup jolted the friction head of the camera and we suspended filming for the day."

The lens used throughout the filming was a 35mm. lens which photographed everything from 2½ foot closeups to long shots of 30 feet. A Selig motor was tal-

beared to the lens to insure its correct focus, and the hinge head was made especially to allow a 2½ foot focus.

"My biggest problem," said Joe Valentine, "was the lighting. Especially the job of eliminating mikes and camera shadows. In the reel where we had ten mikes in operation we had to have electricians working five summer parks."

Valentine mated the color to a low key by neutralizing the set and costumes so that there were no glaring contrasts. He attempted to photograph color purely as the eye receives it. Its key use was in the sunset. Subtly employed, the yellow glare of the late afternoon sun faded to soft gray with light reflections on the moving clouds (made of spun glass), then died slowly and finally to dusk, then dark blue darkness with the lights of the city appearing in the miniature skyline.

During the final gripping moments of the story, when the body was discovered and the two killers were trapped, the set was flooded at intervals by great pulsations of red, green, and white light, which supposedly came from a huge neon STORAGE sign just outside the living room window. The impact of the rhythmic light changes added dramatic tension similar to a musical effect. To accomplish this, light with the different colored gels was fired with shutter devices electrically operated in synchronization with the blinking of the neon sign.

The question was asked—how does this new long "take" technique affect the cast and crew? Cameraman Valentine says it means most careful planning by the crew members and will be of the greatest help to the actors.

"The way we usually film a scene," said Valentine, "by making first a master shot, then a medium shot, and finally a close up keeps the actors waiting endlessly. By the time we get around to the close-up the actors are exhausted and the spontaneity of the scene is lost. But with this reel by reel filming the actor can sustain a characterization, and maintain an even flow and pace in his work."

To the question—what does this do for the audience, what is the difference whether the picture is shot a reel at a time or line by line?—Hitchcock gives the answer. The audience must never be conscious of it. If the audience is aware that the camera is performing miracles the end itself will be deflated. The camera, rolling without a single stop through the entire film, is merely an aid to the story which is full of suspense. The result is an after is so excite the audience by making the picture flow smoother and faster."

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BULLETIN BOARD

(Continued from Page 224)

scene. The photographer covered the disaster from both ground and air. Footage was flown to New York and released within 24 hours.

UNIVERSITY of California at Los Angeles Theatre Arts department has just moved into its new \$40,000 temporary building. Appropriated are funds for building a plant which will house a large sound stage equipped with catwalks for production of motion pictures. Only documentary and training films are undertaken at present. Of the sound stage is a sound dubbing control room, a workshop for instruction in cinematography and a darkroom for developing film. Cutting and editing rooms occupy another section next to the animation studio. Kenneth Macgowan is chairman of the department.

AMONG THE A.S.C. members on photographic assignments overseas are Leon Shamroy, in Rome, Thomas Turwell, in Greenland, Harry Perry, in the South Pacific, and John Dorel, circling the globe. Recently returned from foreign assignments are Al Gilks, who photographed a picture in Spain, Ray Fernstrom, from

FRANK CLARK

THE passing of Frank Clark, in an accidental plane crash June 12th, is mourned by many members of the A.S.C. who owe much to this intrepid flyer, stuntman and photographic assistant for his devoted services in piloting them safely and skillfully on countless aerial photographic assignments.

Clark, who was 49 and a flyer for nearly 30 years, played thief pilot in many motion picture productions featuring aviators. He had just finished an assignment with M-G-M the day before he died. A Lt. Colonel in the Air Force during World War II, Clark also was founder and past president of the Motion Picture Pilots Association. His business partner, Mark Owen, who was a Warner Brothers executive, also died in the crash.

Survived by his mother, who lives in Modesto, Calif., Clark's passing leaves a void in the hearts of many A.S.C. members who credit many of their aerial photographic success to Clark's skillful piloting and his uncanny ability to aid the photographer get spectacular shots in the air.

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Sweden, Lucien Andriot, from Montreal, Floyd Cooley, from Palestine, O. H. Bernadine, from the Antarctic, Paul Ivano from Honolulu, David Henley, Norway, and James Wong Howe from China.

AL GILKS, A.S.C., really found himself behind the eight ball on his most recent photographic assignment at M-G-M where he did the photography on Pete Smith's latest short subject having to do with the game of bellfouls and more par-

ticularly with the skillful raising of bel-luod sides Jimmy Cato, William Mosconi and Charles Peterson.

Gilks used two cameras to film the players—one running at standard sound speed, the other running at 96 f.p.s. to produce slow motion studies of the cue wazards in action. His main problem was building up light intensity to accommodate lens apertures of both cameras in order to insure maximum depth of focus.

PHOTOGRAPHY FOR TELEVISION

(Continued from page 279)

ity on the photography of motion picture films for television. Speaking before the National Association of Broadcasters recently, Fairbanks said that when television is as advanced as is radio today, video stations will devote more than 50 per cent of their program time to motion pictures because film is the only proven method by which a show can be planned, rehearsed, staged, edited, previewed and telecast with professional perfection.

He further emphasized that film eliminates the "human error" which invariably characterizes so many "live" productions, whereas with film, a mistake is easily edited out. Scenes done badly can be rephotographed. Obviously, a filmed television program is the only safe method of presenting a sponsor's message. If the advertiser senses that his name blades won't cut the viewer, his opinion will dissolve immediately, or "Raquel Quicker" will turn out defensible brown business in a puff, he wants to be sure that demonstrations are not "buffed" on the television screen.

All of the cinematic tricks of the motion picture photographer—process shots, misty, slow and accelerated motion, animation, optical tricks—all these are either difficult or impossible to do in "live" releases. But they can be accomplished easily on film and add tremendous production value to any program. Fairbanks pointed out the "Aah," he continued, exterior scenes—always of vital importance whether for westerns, dramas, or comedies—are extremely difficult to do live—especially if interspersed with interior film, however, makes possible the use of as many exterior scenes as desired, adding life and realism to all programs.

Fairbanks believes that only through the motion picture film can unlimited action be obtained. A television program using "live" action, he pointed out, has the same limitations as a stage production. All action at any given time is on a single set and because the action is continuous, the players are held to a single costume. With film there are no restric-

tions, locale is not restricted, and as many sets and costumes as needed can be used. In short, filmed television programs free the writer, the director and the producer of the limitations which strangle the "live" show productions.

Perhaps one of the greatest arguments in favor of filmed video is the problem of time. Sponsors using film will be able to book shows at whatever hour they wish and over selected stations. In fact as Fairbanks pointed out, the film method is the most practical way a sponsor may immediately achieve anything like a national network coverage with his program. Small and minutely staged—but sometimes important—scenes thus may be tied together during the early stages of television.

In the production of the "Public Prosecutor" and other series of video films for National Broadcasting Company, Fairbanks made many discoveries and proved many of his theories about the photography of television films. One has only to witness the unfolding of one of these specially produced programs on the television screen to observe for himself that film photographed in the customary manner for theatrical release is not, and never will be, satisfactory for television. Although many stations now are telecasting old motion pictures because of the scarcity of program material, once films that especially for television are shown, this practice will gradually cease.

When theatrical pictures are televised, deep shadows lose their effectiveness and sometimes turn white on video receivers. Long shots blur and it is difficult to recognize the players. Thus, as Jerry Fairbanks pointed out in his talk, the photography of television films calls for new lighting techniques, the avoidance of long shots, and a strict regard for television's small screen and limited grey scale.

"In preparing our 'Public Prosecutor' and other television series for the National Broadcasting Company," Fairbanks explained, "we use new techniques developed during nearly three years of re-

search. These series—the first to be filmed especially for video—were photographed in a very high key with back lighting emphasized. We used much more camera movement than we would use in theatrical filming because of the close grouping of players. This camera movement, of course, gives the viewer the feeling he is seeing more action than actually was photographed.

"Close grouping of actors is a must because of the smallness of video screens. If large, sharp images and facial reactions are to be clearly received on video sets, players must remain closely grouped. Half figures are the rule—not the exception. Pan and dolly shots should be emphasized and there are many more—and larger—close-ups than would be used in preparing film for theatrical distribution.

"In filming for television, the camera must be carefully centered on the players and action because of the curvature of the television receiving tube. Any action on the edge of the picture is likely to be distorted because of this curve. Extreme blacks and whites should be avoided because they will not telecast satisfactorily. Rapid pan shots also will blur and large sharp lettering should be used in all titles.

"Even the technique for sound recording is different. In theatrical pictures the voice is recorded big to go with the large picture being projected on the theatre screen. For television, the sound should be small for the small receiving screen. Sound for regular pictures is designed for large auditoriums. Sound for television—like radio—should be recorded for hearing in an average living room.

"Sets for the series we filmed for NBC are constructed smaller than the sets we build for theatrical pictures. This is done so that a larger section of the background is visible to the viewer, thus creating more atmosphere and more quickly establishing a locale. If larger sets were used, the video audience would see a smaller section of the background because filming for television necessitates the camera being closer to players and sets."

In photographing the "Public Prosecutor" series, Fairbanks used both 16mm and 35mm Mitchell cameras. Some of the films were produced entirely in 16mm while others were made on 35mm film. The latter, of course, were reduced to 16mm in the printing which is the size film used in NBC's projection equipment.

"In an effort to provide television films with the same intimacy of radio," said Fairbanks, "we have borrowed the technique of making the camera a person. The camera becomes 'you'—the television audience. In brief, you examine the clues, 'you' accompany the Prosecutor as he makes his investigation, 'you' are a part of the drama. Players frequently talk to 'you' and 'you' are given the same opportunity to solve the crime as the players in the film.

All timing is faster for video film. The chemical film is designed for an audience of hundreds. The television picture should be made for an audience of five—five people at home—with all the distractions of home. Scripts should be prepared in such a way so that the viewer can follow the plot by listening—so that he is not required to remain glued to the set at all times to follow the action. On the other hand, the dialogue should not explain every happening. In short, television film writing should be a careful blending of radio and motion picture scripting.

The acting technique for television motion pictures is a combination of stage and screen. Long shots—long shots for television, that is—require the cast to play scenes somewhat "broader" than would be necessary for theatrical film. The reason is obvious. Facial expressions are lost in longer shots because of the small video screen. In close-ups, however, the technique is the same as for regular movies.

Television will create thousands of new positions and opportunities in the motion picture field. It will be responsible for the development of a tremendous new film industry—an industry devoted to the making of quality entertainment especially for television.

How big will this industry become? Only time can tell. But if television requires films for even fifty per cent of its programming—as we believe it shall—it will eventually need a need for more than 300 hours of film each week. This figure, when compared to the present Hollywood output, totals a tremendous new prosperity for all motion picture employees.

ONE IN A MILLION?

(Continued from Page 240)

ally with the smaller negative sizes. Another disadvantage was the use of cellulose nitrate film base which was highly inflammable and, therefore, unsuited to amateur use.

The introduction of Kodak's 16mm reversal film changed this situation, however, by providing a safety-based, fine-grained film and standardized processing service which made amateur movie making practical for all.

At the time of the development of 16mm reversal film it was estimated that the cost of 35mm professional film was \$7.50 per minute of projection while the new reversal film cost the amateur only about \$1.50 per minute. Since that date cost to the amateur have been steadily reduced. Today, despite tremendously increased production costs, and the cam entered in producing vastly improved and technically superior films, the cost to the amateur for 16mm black-and-white movies is well below that figure.

The vast majority of today's amateur movies are made, however, in full color with Kodachrome Film. Kodak introduced the first film for amateur motion pictures in color in 1928 with the Kodachrome process. Announced at a special party at Mr. Edison's house before a bevy of internationally famous guests, including Thomas A. Edison, General Pershing, Hiram Percy Maxim, Sir James Irvine, Roy Howard and Adolph Ochs, the process used a special black and white film with coarsened tiny lenses embossed on its surface. In addition, it employed special three color filters on both the camera and projector to produce color pictures on the screen. Kodachrome motion picture film was first planned in 1935 by the present day Kodachrome film which by several methods and dyes in the emulsion resulted in a full-color film which was much easier for the amateur photographer to use.

Other contributions made by Kodak to the 8mm and 16mm motion picture field include in 1931 the first 16mm sound and magazine film for use with equipment designed by other manufacturers; in 1932 the first 8mm film and camera (which cut amateur film costs by more than half and brought amateur movie making within the reach of additional thousands) and the first extremely high speed motion picture camera; in 1940 the first 8mm magazine film and magazine camera; and in 1948 the first 16mm camera designed specifically for television recording purposes to be placed on the market.

What advancements there may be in the near 25 years are not predictable but as long as scientific research continues, advancements are inevitable.

SPEED BOOM

(Continued from Page 241)

says Rutenberg, is that the boom may now be used in narrow quarters on non-placed sets. The smooth and rapid acceleration now afforded by the improved RO camera boom is something that was not possible heretofore.

John Arnold who fathered the invention, is most enthusiastic over the boom's performance on the set. "It worked perfectly on its initial test run," he said.

In all, 10 claims have been allowed on Arnold's invention by the U. S. Patent Office,* with further claim allowances expected on more recent improvements. The boom control is but one of an impressive list of innovations and developments of camera equipment accomplished by Arnold during his association with Metro-Goldwyn Mayer.

* U. S. Patent No. 2,211,055



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Current Assignments of A. S. C. Members

Members of The American Society of Cinematographers were engaged as Directors of Photography in the Hollywood Studios during the month of June, as follows

Allied Artists

• RUSSELL HARLAN, "Lure of the Balmora," with Barry Sullivan and Marjorie Williams

Columbia

- BERNETT GOFFET, "Undercover Men," with Glenn Ford and Nina Foch
- CHARLES LAWTON, Jr., "Walking Hills," with Randolph Scott and Ella Raines
- JOSEPH WALKER, "The Dark Post," with William Holden and Nina Foch
- BEN WOMPY, "Quick On The Trigger," with Chas. Senter and Sandra Blythe
- IRA MORGAN, "Photo-Frenzy," with Gloria Henry and Stanley Clements
- JIMMY FRIDGLEY, "Song Of India," with Sabu, God Russell, Tullian May

Eagle-Lion

- JOHN ALTON, "Red Sails in the Sunset," (Cinecolor), no cast list available
- GUY KROE, "Tender Is the Night," with Lucille Bremer and Richard Carlson

Independent

- GEORGE H. ROBINSON, "Tim Morn Scorned Yard," with Dennis O'Keefe, Louis Hayward
- GARREY TOLMAN, "Enchanted," with Terna Wright, David Niven, Evelyn Keyes
- GEORGE BARNES, "The Nunten Racket," with John Garfield, Beatrice Pearson
- JACK GREENHALGH, "The Stranger Mrs. Crane," with Maryline Lord, Pierre Vaneck
- BENJAMIN H. KLUMP, "Tucson," with Jimmy Lydon and Peggy Edwards
- ELMER LAROLD, "Some Run, Some Fall," with William Powell and Dennis O'Keefe
- JOE BERKE, "Ma Dear Secretary," with Laraine Day, Kirk Douglas, Kathryn Wynn and Rudy Vallee
- WINSTON HUCH, "The Three Godchildren," (Technicolor), with John Wayne, Pedro Armendariz, Mae Marsh
- FRED JACKMAN, Jr., "The Unbelievable," (Cinecolor), with Virginia Grey, Philip Reed
- GEORGE ROBINSON, "Telling Secrets," with George Montgomery and Ellen Drew
- JACKSON ROSE, "Dungeness 13," with Tom Conway, Margaret Hamilton

Metro-Goldwyn-Mayer

- HAL ROSSOM, "Command Decision," with Clark Gable, Walter Pidgeon, Van Johnson, Bruce Devlin
- CHARLES ROYMER, "Words and Music," (Technicolor), with Judy Garland and Mickey Rooney
- RAY JUNE, "See It The Morning," (Technicolor), with Jeanette MacDonald and Lloyd Nolan
- ROBERT SURTEES, "An Of Violence," with Van Heflin, Robert Ryan and Joan Leigh
- JOE RUTTENBERG, "The Babe," with Robert Taylor, Ann Gielgud and Charles Laughton
- CHARLES SCHWENK, "Lure Women," with Joan Leigh and Robert Ellis

RKO

- J. ROY HUNT, "Broken In The Saddle," with Tom Riddle, Richard Martin and Carol Forman
- ROBERT DEGRASSE, "Baldpate's Backside," with Robert Young, Shirley Temple and John Agar

Monogram

- HARRY C. NEWMAN, "Sinner Truth," with Jimmy Wakely and Christine Lanyon

Paramount

- DANIEL BARRY, "Successful Jones," with Bob Hope, Lucille Ball and Mary Jane Marlowe

Twentieth Century-Fox

- JOE MACDONALD, "Yellow Sky," (Technicolor), with Gregory Peck and Anne Baxter
- ARTHUR MILLER, "Lucky To Three Wives," with Jeanne Crain, Lyda Darnell, Ann Sothern, Jeffrey Lynn and Paul Douglas
- HARRY A. JACKSON, "Chickies Every Sunday," with Dan Dailey, Alan Young and Colleen Miller
- HARRY A. JACKSON, "Baroque," (Technicolor), with Betty Grable, Dan Dailey and Jack Oiler
- CHARLES CLARKE, "Sard," (Technicolor), with Mark Stevens, Colleen Gray and Rory Calhoun

Universal-International

- EDWARD CRONFAGER, "The Confession of Marie Cross," with Sonja Henie, Olga San Juan and Dorothy Hare
- RUSSELL MITCHELL, "You Gotta Say Happy," with Joan Fontaine and James Stewart
- ARTHUR HENSON, "The O'Flynn," with Douglas Fairbanks, Jr., Helena Carter and Richard Greene
- WILLIAM H. DANIELS, "Family Honey Moon," with Claudette Colbert and Paul MacMurray
- FRANK PLAVIER, "Carlotta," with Burt Lancaster and Yvonne DeCarie
- IRVING CLARKE, "Black Velvet," (Technicolor), with Ann Blyth and George Brent

Warner Brothers

- ERNEST HALLER, "My Dream Is Yours," (Technicolor), with Jack Carson and Doris Day
- J. FREDERICK MARLEY, "Silver Lining," (Technicolor), with Jane Hovell, Kay Bolger and Gordon MacRae
- TED McCRAW, "Juke Boogie," with Bette Davis and Robert Montgomery
- CARL GUTTORP, "Girl From Jones Beach," with Ronald Reagan and Virginia Mayo
- CHARLES CLARKE, "The Younger Brothers," (Technicolor), with Wayne Morris and Juan Page
- SAM JACKSON and WILFRED CLINE, "Fighting Squadron," (Technicolor), with Edmund O'Brien and Robert Stack
- ELWOOD BRIDGELL, "South of St. Louis," (Technicolor), with Joel McCrea, Alexis Smith and Zachary Scott

NOTICE TO A. S. C. MEMBERS

A general meeting and banquet for all members of the A. S. C. will be held at the Clubhouse in Hollywood Monday evening, July 17th, at 8:00 p.m. On that evening the A. S. C. will be host to special guests from Metro-Goldwyn-Mayer studios.

'BERLIN EXPRESS'

(Continued from Page 233)

colours, the scene becomes clear again and the action continues. The effect is startling in its originality.

In another sequence two chorists, during the course of a fight, fall through the top of a huge beer vat and continue their struggle in the brew below. A third combative stunts stop the vat and watches them through the peeping hole which they made in falling. The shot of him taken from below shows him framed by the jagged hole, his height exaggerated by the steepness of the angle. The overall effect is a striking and dramatic composition.

In the climactic sequence of the picture, Marie Oberon and Robert Ryan stand talking in the compartment of a train just as it is preparing to pull out. Through the window of their compartment, and reflected momentarily by the windows of a train passing in the adjacent track, the audience can see Charles Korvin attempting to strangle Paul Lukas, the struggle apparently taking place in the compartment adjoining that occupied by Ryan and Miss Oberon. In order to create this special effect, the struggle between Korvin and Lukas was first photographed in a straightforward manner. Then this film image was reflected into the windows of a passing miniature train and re-photographed as an enlarged process background. The resulting composite background was projected outside the train window in the conventional manner and the action of Ryan and Miss Oberon photographed against it. The effect on the screen is uniquely original.

In unspasmodic, mesmerizing Berlin Express, Lucius Bullied proves again that the imaginative and resourceful cinematographer doesn't always need the consequences of a Hollywood studio to turn out a first rate job of photography.

MOVIES FOR MONEY

(Continued from Page 237)

For instance, there are galleons, swimmers, tennis players and high school and college athletes who can improve their form and technique when aided by analysis films made of them in action. Ath-

letic coaches can be sold on the idea—and many of them already are—of having analysis films made of every grid game as an aid to improving team play. Many realists—no take another field—are selling homes nowadays by screening movies of available properties for prospects in a cozy miniature theatre which is usually part of their offices. And there are other possibilities, too numerous to mention.

Marion Schweitzer was watching a group of youngsters swimming in a pool one day in his home town of Moline, Illinois. They were learning to dive and despite their instructor's patient coaching, the kids couldn't get the right arch to their dives. Of course the coach couldn't make them see what they were doing wrong, but Schweitzer knew that movies could, so he offered to shoot a fifty foot roll of film of the kids in action so they could study it.

First he made shots of the youngsters diving, with his camera running at normal speed, then he set the camera to shoot at 32 fps for moderate slow motion, and filmed the divers from a number of angles. When the film was returned from the laboratory, he arranged to screen it before the young divers and their parents who gathered together with the coach. The coach was highly enthusiastic and as the film was run off the fourth and fifth time, he pointed out the various errors in his students and suggested how to improve their form. This demonstration resulted in an arrangement to make movies of other swimming classes and Schweitzer presently found himself and camera in the business of making movies for money!

This venture led Schweitzer to explore other fields of sport. He found that golfers could use form movies to a great advantage to improve their stance, swing and general performance. Sometimes these movies would be made contemporaneously, sometimes by following a shooting script which was prepared after consulting the coach or player to determine their needs.

Another 16mm cine photographer who has turned his hobby into a lucrative picture business is Richard V. Thirion of Salt Lake City. While Thirion was employed in a local photographic store, coach Ike Armstrong of the University of Utah came to him one day and asked if he knew of an experienced 16mm movie maker who could take over the job of filming the college's grid games. Thirion naturally said yes and identified the filmer as himself, and the next week he was set up with his camera atop the grandstand, shooting one of the big conference games.

Never having made any football pictures before," said Thirion, "I shot what I thought coach Armstrong would want, and then hoped. The pictures turned out pretty good and the day before the next game, Ike called and asked if I would make pictures again. He made several

suggestions which helped me to improve results. The university furnished the camera and the film. They had a 65mm. 1/27 lens on a Cine Special which proved quite satisfactory, as all the games were played in the daytime. I completed the season assignment using their equipment and film.

Before the next football season rolled around I approached the coach with the suggestion that I use my equipment and furnish the film, take the pictures and deliver to him a finished picture of each game for the entire season at a specified price. The College accepted my proposal and I proceeded to gather together enough film for the entire season. At that time all types of film were scarce and I was constantly searching for film at drug stores, and any other place I could find it.

The making of football analysis films is not necessarily confined to 16mm, the 8mm camera can serve this purpose equally well, where screening requirements are not great.

In the embryonic stage of providing motion picture programs for television, numerous opportunities have opened up for experienced 16mm photographers with good cameras and lens equipment. Several firms who were among the first to get into this field have advertised for and made many contacts with 16mm camera men throughout the country who have supplied much of the material that has been seen to date in television newscasts.

George Kistner of New York City has secured several assignments from a war correspondent newscast producer to provide footage of local events. "The first subject that I filmed," said Kistner, "was the Frost Race, an annual winter event of the Manhattan Yacht Club on Long Island. True to the event's name, the races were held on one of the coldest days of the year. The job of photographing them was comparatively easy. I arrived at the club in the morning to plan my shooting and get my equipment ready for action. I started to shoot at one o'clock as the yacht club members started to haul out the small boats, after backing through two feet of snow and ice—all of which was recorded on film. After the boats had been placed in the icy water, I made numerous shots of principal contestants, showing them hauling up sails, tying knots, etc. All this in clamps, of course, according to the established requirements of television.

"For action shots of the race I set up my camera aboard the crash boat and filmed, in all, 300 feet of 16mm Kodachrome. This was promptly air-expedited to the newscast company, of which 125 feet were accepted and paid for—one bud for one day's work."

There are numerous other 16mm cameramen who have had similar opportunities come their way. One, quite accidentally, saw an advertisement in his local news-

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paper soliciting services of an experienced amateur movie photographer. He answered the ad and found that the company, a large mid-west manufacturer of machinery, especially wanted a movie maker from the amateur ranks because they felt he would have a fresh viewpoint and would more likely show greater initiative and imagination than some of the professionals they had previously employed. The amateur screened some of his prize-winning films and as a result was made the company's "one-man motion picture production staff."

In Los Angeles, two 16mm movie makers are currently supplying realtors with movies of homes listed for sale. They photograph listed homes inside and out and onto the film wash permanent data, supplying it to the realtors ready to screen.

Still another Southern Californian puts his 16mm camera to good use during the football season, shooting the big conference games in the Coliseum in color for a leading Los Angeles clothier. The films are then screened daily in a cozy projection room adjacent to the young men's clothing section, as a special attraction for patrons of the store. The innovation is announced prominently in the company's newspaper advertisements, and it has met with such success the company plans to make it an annual fall event.

If you have attained a degree of perfection in your cine photography, similar opportunities probably await you in your community, too. If you would like to investigate the possibilities, why not explore the same fields which Milton Schwenn and the others did in their home towns?

Your camera equipment, of course, will have something to do with qualifying you for such work. Obviously 16mm is the most desirable medium, although analysis films of grid games and from movies made to order for golfers, swimmers and other athletes are just as effective in 8mm. Your camera should afford speeds of 32, 48 and 64 frames per second as well as 16 Eps., in order to provide slow motion and ultra slow motion studies. For shooting grid games a three or four inch telephoto lens is a must for 16mm cameras, and the equivalents for 8mm cameras.

You should provide yourself with a good photo-electric exposure meter and if you plan to shoot color film exclusively, then add a series of color filters to your kit of accessories. Do not overlook a polarizer or polarizing filter. You'll need it before your lens when shooting pictures of divers and swimmers in order to exclude light reflections from the water. Last but by no means least, buy a good solid tripod with a pan head, and use it in making every shot. Steady pictures on the screen invariably mark the work of the experienced and professional cameramen.

WHAT'S NEW in equipment, accessories, service



16 mm. Equipment

A low-priced professional 16 mm film recorder is the Cine-Pro Sprocket, offered by Cine-Pro Corporation, 306 West End St., New York 23, and recommended for television, film sound recording and general motion picture studio use. Manufacturer claims simplicity of operation, high fidelity V.A. recording, noise reduction, visual monitoring target, and ability to produce excellent sound tracks on either negative or positive stock.

A companion piece to the recorder, also announced by this company, is the Cine-Pro Sprocket Film Photograph, for playback or for use as a dubber. It can be set up in instances of two or more for recording. High fidelity reproduction is guaranteed. A special two-speed model is also available affording use of magnetic tape recordings with any existing motion picture camera equipment.



Semi-professional Splicer

A combination of 8mm and 16mm. Semi-professional Splicer for heavy duty use in schools, film libraries, and laboratories has been announced by Bell & Howell Company, Chicago.

In one operation, says Bell, the new splicer shears both ends of the film uniformly and applies pressure to the film ends while they are being cemented. An electrical element in the base, operating on AC only, heats the shear blades, thus shortening cement-setting time.

In addition to the usual provision for stripping emulsion from the left-hand end, the right-hand shear blade and arms of the new splicer are designed to permit scraping the emulsion from the right-hand film end, a process necessary for splicing certain types of prints and prints. Splicer is 6 1/2" x 5 1/2" x 3 1/2" and weighs but three pounds.

Automatic Dissolve

Joseph Yolo, 5968 Santa Monica Blvd., Hollywood, is again in production on his Automatic Dissolve Attachment for the Cine Kodak Special Device, which attaches readily to camera and functions from the winding crank shaft, provides accurate manipulation of the camera's dissolving shutter lever to effect smooth fade-in and fade-out. What results, in making a dissolve, is that both fade-out and fade-in occupy the same number and the same identical series of frames, producing a genuine professional dissolve. Price of current model is \$49.50.



New Floodlights

Two new, multi purpose flood lamp reflectors, which may be adjusted to provide flood or semi-spot lighting or any type in between—have been announced by the Eastman Kodak Company.

Known as Kodak Van-Beam Standlight and Kodak Van Beam Clamp-light, reflectors feature built-in lamp socket which when rotated, will change the angle of light. Lamps may be adjusted, by a simple turn of the control ring, to any point from a wide beam for overall illumination, through a moderately narrow beam for more concentrated lighting and moves to a narrow spotlight-type beam for high-lights and other special effects.

Made of light-weight spun aluminum 12 inches in diameter, reflectors are finished with a semi-matte surface to insure proper diffusion of the reflected light. The lamp socket in each case will accept one No. 2 flood lamp. A built-in socket owner!

mounting permits positioning to any angle, and a handle is provided for ease in use.

Standlight is mounted on a telescoping column, locked in place by tightening a thumb screw. The Van-Beam Clamplight has a positive Croype felt-padded clamp which may be quickly attached to flat objects, such as chair backs and table tops, etc. Price of Standlight is \$15.00, of the Clamplight, \$9.75.



Kryptar Movie Film

A new 8mm. black-and-white panchromatic film for home movie makers has been announced by Kryptar Corporation, Rochester, N.Y.

Kryptar 8mm Panchromatic Motion Picture Film, packed in 25-foot daylight loading rolls, will be distributed nationally by the Cintas Circulation Company of Philadelphia, national distributor of Kryptar roll film.

The new film has a daylight exposure index of 50 and can be used effectively for both indoor and outdoor pictures. It is a new film product, manufactured in 1948.

from new, fresh materials, and perforated expressly for 8mm cameras. Processing at one of the three regional laboratories is included in purchase price of film. Mailing addresses of Kryptar processing laboratories are as follows: Eastern Laboratory, P. O. Box 29, Rochester, N.Y.; Midwestern Laboratory, 1501 Toomey, Kansas City 8, Mo.; Western Laboratory, P. O. Box 271, Hollywood 28, Calif.



For Title Making

The Vargraph lettering instrument is offered amateur movie makers and producers of films in the 16mm professional field for lettering title cards neatly and quickly. Used for years by draftsmen, architects, commercial artists and others, the Vargraph is a small mechanical device that reproduces many sorts of letters from a single template directly in ink or pencil on any suitable surface. The letters may be reproduced in any desired width combined with any desired height between .075 and .750 of an inch. Instrument can be used with equal ease by either right or left handed person. Manufacturer is Vargraph Company, 2715 Vine St., Lincoln 3, Nebraska.

KEEPING UP WITH PHOTOGRAPHY

(Continued from Page 226)

qualified recruits are needed every five years, the figure quoted for the actual likely intake of trainees, including photographers, is below 100.

Temperature Filter

A new type of glass filter, developed in England, provides a precise means of increasing apparent color temperature. Color difference between a light source and modified and a Planckian radiator at the higher color temperature can hardly be distinguished, even by an experienced observer, for example, a piece 16mm rack will convert a source at 2250° K to 2870° K.

The filter, identified as Type 0 B9, is supplied by Chance Brothers, Ltd., London, in unpolished rolled sheet form and to a guaranteed surface coefficient in pin els up to 8 inches square.

Newsreels

Roughly 200 newsreel cameramen, their assistants and sound technicians were em-

ployed in covering the Republican convention in Philadelphia. Father's staff, for instance, was apportioned between 25 and 30. Hand camera crews played an even greater part in the coverage than ever before.

Father had a new and most powerful hand camera developed during the war by a Warner Brothers subsidiary. New model, powered by an electric motor instead of the conventional spring motor, takes 200 feet of film at against the former 100 ft. maximum, eliminating need for cumbersome and frequent reloading.

Paramount News reportedly will employ all its Zoomar lenses on cameras covering future convention activities.

Pin Point Cinematography

Gregg Toland, A.S.C., has developed a new technique which he will use extensively in shooting his next Goldenwyn picture, Roseanna McCoy, which will play low only a pin point for light through the lens.

BOOKS

You'll Want To Read

FLASH IN MODERN PHOTOGRAPHY, By *Wm. Mortimer Cameron*. Craft Pub. Co., \$1.35.

Studio and men and prose photographers will find much of interest, besides the illustrations, in the 224 page treatise on the use of flash lighting in modern photography. Story lighting diagrams augment the illustrations. Every phase of flash photography is covered with particular emphasis on personal mood photography, portrait, light work, landscape and architectural photography, studio-studio photography and a special section on electronic flash.

A supplementary section by Don M. Paul discusses the particular problems of dramatic, city, press, movie stills, police, radio publicity and industrial photography. The all-important problem of lighting and exposure are discussed and illustrated with particular thoroughness and the book makes a number of very valuable contributions in these fields.

PICTORIAL CONTINUITY, By *Arthur Gaskill and David Englander*. David Sloan & Pearce, \$1.00.

Gaskill, one of the best-known seasonal contributors in the business before the war and Englander, a former newspaperman and one-time editor of *Screen Magazine*, have provided the advanced movie amateur with an excellent handbook on the construction of motion pictures. It is the first book to break down the complicated technique of camera construction and get simple means for achieving it in the hands of the average movie cameraman. Its 119 pages are amply illustrated to show personal examples of the simple sequence, the establishing shot, the over-pan and matching scene, cut-in and cut-away, and various angle shots. An extensive summary includes each of the 13 chapters.

KODACHROME AND EKTACHROME, By *Paul Boyd*. Camera Craft Pub. Co., \$6.50.

Both still and movie photographers, professional as well as amateur, will want to add this volume to their library of new books. Here is the first and certainly the most complete working guide on every day problems in Kodachrome, Ektachrome and Kodachrome photography—with answers. There is no mystery about good color results, and this book will show you how to get them in an non-technical suggestion. The book is an experience record. The author is one of the few photographers who has worked exclusively in Kodachrome from the day the medium was introduced, thousands of shots in 35mm, motion and cut film under all kinds of conditions, provided facts for the book. Movie photographers will find special interest in the chapters, *After Hours in Kodachrome*, and *Twelve Special Effects Trick Shots*.

HOW TO TAKE INDUSTRIAL PHOTOGRAPHS, By *Monte Henry Zedler and Franklin G. Bentley*. McGraw-Hill, \$3.00.

Zedler, formerly chief photographer, Allied Chemicals Mfg. Co., and Bentley, formerly a member of the advertising department of the same company, have provided a book that will be of incalculable value to the industrial cameraman as well as still photographer interested in the photographic field. In this book, which is illustrated with more than 100 photographs, offers solutions to the special problems facing those who photograph steel and machinery. The reader is told what factors must be taken into consideration and how he should apply these factors to get industrial pictures of the quality sought by advertising management executives, etc.

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